

Outcome of Adolescent Pregnancy in Different Periods: Vachira Phuket Hospital

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Objective: Determine an outcome of adolescent pregnancy in different periods.

Material and Method: The retrospective descriptive study was conducted during the first and second quarter of the fiscal year (FY) 2012. Outcome of adolescent pregnancy included hematocrit, antenatal visit, stillbirth, Apgar score, low birth weight, and maternal & neonatal complication were collected.

Results: There were 1,430/1,391 deliveries in the first/second quarter of FY 2012. The proportion of adolescent pregnancy of first/second quarter, less than 20 years old, was 182/155 cases (12.7/11.1%), respectively. The satisfactory antenatal visit, at least four visits, was achieved in the high proportion of 71.9/78.0%. However, the first antenatal visit in the first trimester was quite low as 17.5/20.0%. Anemia was reported in about one-third as 30.7/28.3%, while low birth weight of less than 2,500 grams accounted for up to 13.7/13.5%. Severe asphyxia of Apgar score less than 4 for longer than 5 minutes was 2.1/1.2%.

Conclusion: Independent known confounding factors of adolescent pregnancy were associated with maternal anemia, and low birth weight neonate. Prenatal health care providers should pay special attention to this sensitive population.

Keywords: Adolescent pregnancy, Anemia, Low birth weight, Outcome

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The teenage childbirth rate, less than 20 years old, in Thailand has been higher than that recommended by the World Health Organization (WHO) of less than 10%. It was 12.5% in 1999 to 14.7% in 2006⁽¹⁾. While the Bureau of Registration, Department of Local Administration, Ministry of Interior reported that the number of teenage births was the highest in 2007 of 108,496 cases, and the following year, the number fell to 95,747 cases⁽²⁾.

Teenage pregnancy is an important public health problem, and several studies have suggested that first teenage pregnancies have a higher frequency of adverse perinatal outcome^(3,4). Teenage pregnancies have long been considered high risk. Since the 1960s, many studies have demonstrated increased risk of pregnancy and perinatal complications in teenage pregnancies including: anemia, pregnancy induced hypertension, prolonged labor, premature deliveries,

cephalopelvic disproportion, intrauterine growth restriction, sexually transmitted diseases, increased incidence of instrumental and cesarean deliveries, increased maternal and perinatal mortality, and increased incidence of congenital malformations⁽⁵⁾.

The combination of early childbearing and poor nutrition exposes young women to serious health risks during pregnancy and childbirth, including damage to the reproductive tract, maternal mortality, pregnancy complications, perinatal and neonatal mortality, and low birth weight. International analyses suggest that, at the global level, girls aged 15-19 are twice as likely to die from childbirth as are women in their twenties, while girls younger than age 15 face a risk that is five times as great⁽⁶⁾.

However, some studies concluded that negative outcomes were mainly caused by the social, economic, and behavioral factors that predispose some young women to pregnancy rather than age itself⁽⁷⁻¹⁰⁾. Whether the adverse effect and outcome of teenage pregnancy simply is due to the deleterious socioeconomic factors that were related to teenage pregnancy or whether biological immaturity plays a

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major role remains unclear. More data that is empirical is required to understand the effect and influence of these compounding factors. Therefore, the objective of the present study was to determine whether teenage pregnancy is associated with increased adverse outcome of pregnancy.

Material and Method

The present retrospective descriptive study was conducted in the Department of Obstetrics and Gynecology, Vachira Phuket Hospital during the first (October to December) and second (January to March) quarter of the fiscal year (FY) 2012, among pregnant adolescents who were admitted in the labor room for delivery. Data on the risk and outcome indicators

were elicited from medical records of all deliveries and births, and subsequently analyzed. The present study was approved by Ethics Committee of the Faculty of Medicine, Prince of Songkla University, and Institutional Review Board, Vachira Phuket Hospital.

The number of visits is used as an indicator for ANC coverage. The WHO recommends four goal-oriented visits during pregnancy⁽¹¹⁾. Thus, the satisfactory antenatal visit was defined as the pregnant women had at least four antenatal visits.

Physiologically, hemoglobin concentration drops during gestation, and for such reason the hemoglobin cutoff to define anemia was set at less than 11.0 g/dL of hemoglobin, or less than 33.0 volume percent⁽¹²⁾.

Table 1. Maternal indicator, comparison of the first and second quarter of the fiscal year 2012

Maternal indicator	First quarter (n = 182) No. (%)	Second quarter (n = 155) No. (%)	p-value
Age (year) (mean ± SD)	17.4 ± 1.4	17.5 ± 1.2	0.1277
Parity			
2 or more	4 (2.1)	1 (0.6)	<0.001**
1	16 (8.7)	29 (18.7)	<0.001**
0	162 (89.0)	125 (80.6)	0.3958
Previous abortion	11 (6.0)	12 (7.7)	<0.05*
Average gestational age (week)	38.0	38.0	0.1566
Gestational age less than 37 weeks	15 (8.2)	21 (13.5)	<0.001**
Education			
Secondary school or less	65 (35.7)	40 (25.8)	<0.05*
Vocational college	117 (64.2)	115 (74.1)	0.2083
Anemia			
Mild anemia, 27.0 vol% to less than 33.0 vol%	56 (30.7)	44 (28.3)	0.4942
Moderate to severe, less than 27.0 vol%	6 (3.2)	1 (0.6)	<0.001**
Early antenatal visit			
First trimester	32 (17.5)	31 (20.0)	0.2605
Second trimester	118 (64.8)	103 (66.4)	0.8654
Third trimester or no visit	32 (17.5)	21 (13.5)	<0.05*
Satisfactory antenatal visit, at least four visit	131 (71.9)	121 (78.0)	0.4915
Pregnancy induced hypertension			
Eclampsia	1 (0.5)	-	
Severe pre-eclampsia	2 (1.0)	2 (1.2)	0.1566
Obstetric complication			
Twin	-	1 (0.6)	
Placental previa	1 (0.5)	-	
Breech presentation	-	2 (1.2)	
Postpartum hemorrhage	1 (0.5)	-	

* Statistical significance, $p < 0.05$

** Highly statistical significance, $p < 0.001$

The term “asphyxia” should not be used unless the neonate meets all of the following conditions: (1) umbilical cord arterial pH less than 7 (whether metabolic or mixed), (2) Apgar score of 0 to 3 for longer than 5 minutes, (3) neurologic manifestations (e.g. seizures, coma, or hypotonia), and (4) multisystemic organ dysfunction⁽¹³⁾. In the present study, the asphyxia was defined as Apgar score less than 4 for longer than 5 minutes.

The OpenEpi, Open Source Statistics for Public Health, was utilized. The indicator and outcome were analyzed as compared case rates, using person time of exposure as denominators. Fisher test was included in the results. Statistical significance was set at < 0.05.

Results

There were 1,430/1,391 deliveries in the first/second quarter of FY 2012. The proportion of adolescent pregnancy of first/second quarter, less than 20 years old, was 182/155 cases (12.7/11.1%), respectively. The maternal indicators are demonstrated in Table 1.

The first/second quarter, the mean age was 17.4/17.5 years old, with the minimal range of 14 years old, as well as the gestational age, without significant change. The satisfactory antenatal visit, at least four visits, was achieved in the high proportion of 71.9/78.0%. However, the first antenatal visit in first trimester was quite low, as 17.5/20.0%. The parity of 1 and 2 or more was accounted around 10.9% to 19.3%, and interchanged in significant increasing and decreasing.

The proportion of previous abortion in first/second quarter varied from 11 in 182/12 in 155 cases or 6.0/7.7%, with significant extension, and gestational age less than 37 weeks of 8.2/13.5%. The anemia was reported about one-third, as 30.7/28.3%.

The neonatal outcome is demonstrated in Table 2. The low birth weight in first/second quarter,

accounted up to 13.7/13.5%, while the severe asphyxia of Apgar score less than 4 for longer than 5 minutes was 2.1/1.2%, and significant decreasing. The fetal anomaly was 0.5/1.2%, slightly high and significant increasing. The fetal death and fetal death in utero were also encountered.

Discussion

The present study describes the possible outcome of adolescent reported in existing medical records. The prevalence of adolescent pregnancy in the present study, 11.1% to 12.7%, has got along with the national figure of a bit higher than WHO recommendation. While the highest rate of teenage pregnancy in the world is 14.3% of girls aged 15 to 19 years, is in sub-Saharan Africa⁽¹⁴⁾.

The satisfactory antenatal visit of the present study, at least four visits, was achieved nearly four-fifth (71.9 to 78.0%). This figure was much more than worldwide of 47%, and up to 97% in some developed countries⁽¹¹⁾. Nevertheless, in sub-Saharan Africa the antenatal care coverage for at least four visits is 42%, and as low as 32% in the least developed countries⁽¹⁵⁾. The anemia of pregnant women was reported about one-third (28.3 to 30.7%), doubly higher than 15% of developed countries⁽¹⁶⁾, while prevalence of anemia in developing countries is relatively high of 33% to 75%⁽¹⁷⁻²¹⁾.

The low birth weight of the present study was up to 13.5 to 13.7%, comparable with average worldwide statistics of 15.5%, with 16.5% of developing countries, and 7.0% of developed region⁽²²⁾. The prevalence of asphyxia of the study was a few percent, higher than 0.4% in Cape Town⁽²³⁾, and 0.2% in Nigeria⁽²⁴⁾.

In conclusion, the independent of known confounding factors of adolescent pregnancy were associated with maternal anemia, and low birth weight neonate. Prenatal health care providers should pay special attention to this sensitive population.

Table 2. Neonatal outcome, comparison of the first and second quarter of the fiscal year 2012

Neonatal outcome	First quarter (n = 182) No. (%)	Second quarter (n = 155) No. (%)	p-value
Low birth weight, less than 2,500 g	25 (13.7)	21 (13.5)	0.9419
Apgar score less than 4 for longer than 5 minutes	4 (2.1)	2 (1.2)	<0.001**
Fetal anomaly (anencephalus, gastroschisis)	1 (0.5)	2 (1.2)	<0.001**
Fetal death, death fetus in utero	-	2 (1.2)	

* Statistical significance, p < 0.05

** Highly statistical significance, p < 0.001

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Potential conflicts of interest

None.

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ผลที่ได้รับของการตั้งครรภ์วัยรุ่นในช่วงเวลาต่างกัน ณ โรงพยาบาลวชิระภูเก็ต

สมนึก จิรายุส, วีระพล จันทรดียิ่ง

วัตถุประสงค์: ความมุ่งหมายของการศึกษาคือ เพื่อกำหนดผลที่ได้รับของการตั้งครรภ์วัยรุ่นในช่วงเวลาต่างกัน

วัสดุและวิธีการ: ศึกษาแบบพรรณนาย้อนหลังระหว่างช่วงสามเดือนที่หนึ่งและช่วงสามเดือนที่สองของปีงบประมาณ พ.ศ. 2555 เก็บข้อมูลผลที่ได้รับของการตั้งครรภ์วัยรุ่นได้แก่ ฮีมาโทคริต การฝากครรภ์ การตายคลอด คะแนนเด็กแรกเกิด เด็กแรกเกิด น้ำหนักน้อย และภาวะแทรกซ้อนของมารดา/เด็กแรกเกิด

ผลการศึกษา: ช่วงสามเดือนที่หนึ่ง/สองของปีงบประมาณ พ.ศ. 2555 มีการคลอดเท่ากับ 1,430/1,391 ครั้ง สัดส่วนของการตั้งครรภ์วัยรุ่นช่วงสามเดือนที่หนึ่ง/สอง ในผู้ป่วยอายุน้อยกว่า 20 ปี เท่ากับ 182/155 ราย (ร้อยละ 12.7/11.1) ตามลำดับ การฝากครรภ์อันพึงใจอย่างน้อย 4 ครั้ง บรรลุในสัดส่วนสูงถึงร้อยละ 71.9/78.0 อย่างไรก็ตามการฝากครรภ์ครั้งแรกในไตรมาสแรกของการตั้งครรภ์ค่อนข้างต่ำเพียงร้อยละ 17.5/20.0 ภาวะเลือดจางพบประมาณหนึ่งในสาม เท่ากับร้อยละ 30.7/28.3 ขณะที่เด็กแรกคลอดน้ำหนักน้อยกว่า 2,500 กรัม พบร้อยละ 13.7/13.5 เด็กแรกเกิดขาดออกซิเจนโดยคะแนนเด็กแรกเกิดน้อยกว่า 4 นานกว่า 5 นาที ร้อยละ 2.1/1.2

สรุป: ปัจจัยอันทำให้เกิดแบบอิสระของการตั้งครรภ์วัยรุ่นเกี่ยวข้องกับภาวะซีดในมารดาและเด็กแรกเกิดน้ำหนักน้อย ผู้ให้บริการสาธารณสุขขณะตั้งครรภ์ควรให้ความใส่ใจเป็นพิเศษต่อกลุ่มประชากรอันไวต่อสิ่งกระตุ้นนี้
